

(among a great many references in this technical field) each of which shows a part of the method or apparatus of the present invention. That exercise of picking and choosing between references would not, however, serve to predict the beneficial efficiencies obtained by means of the unique combination of steps and elements recited in the claims. "It is insufficient that the prior art disclosed the complements of the patented device, either separately are used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor." *Northern Telecom, Inc v. Datapoint Corp.*, 908 F.2D 931, 15 USPQ2d 1321 (Fed. Cir, 1990) *cert. denied*, 498 U.S. 920 (1990) "...in addressing the question of obviousness a judge must not pick and choose isolated elements from the prior art and combine them to yield the invention in question...." *Dennison Mfg. Co. v. Panduit Corp.* 475 U.S. 809, 229 USPQ 478 (1986). The applicant respectfully contends that there is no teaching, suggestion, or incentive in the three patents cited by the Examiner to combine them and make the combination made by the inventor.

Finally, the Examiner rejects claims 13 and 23 "under 35 U.S.C. 103(a) as being unpatentable over '243 in view of '803, and Smith, and further in view of Komine, US patent 6,215,800". Continuing, the Examiner states that:

"The previous combination does not teach including two ZnGeP₂ non-linear crystals."

"However, Komine does teach including two non-linear crystals in an OPO in order to increase interaction length (column 2, line 39-41)."

"It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine two crystals, as taught by Komine, with the OPO of the previous combination in order to increase interaction length."

The applicant respectfully disagrees with the examiner. When reading the applicant's specification his OPO output comprises the signal and idler beams from one or both of the ZGP crystal(s). In contrast, the Komine reference teaches mixing two of these beams to get a difference signal beam. For one example, at col. 4, l. 1 – 8 in Komine we read:

"In operation, the first nonlinear optical medium, such as a PPLN crystal, sustains optical parametric oscillation by producing a signal frequency ω_s and an idler frequency ω_i from the pump frequency ω_p . Those frequencies are directed into the second nonlinear optical medium, such as a PPLN crystal, and such PPLN crystal sustains difference-frequency ω_d mixing by producing an additional idler frequency ω_i' and difference-frequency ω_d . A high reflector output mirror is positioned at the output end of the cavity and is adapted to couple the difference-frequency ω_d , the idler frequency ω_i and the additional idler frequency ω_i' external to the cavity, and said high reflector output mirror is further adapted to be totally reflective to the signal frequency ω_s to fully contain the signal frequency ω_s within the resonator cavity."

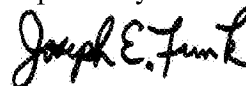
Thus, by combining Komine with the two Esterowitz patents you change the type of outputs to something that the applicant does not teach, and that is different than the outputs

taught in the 6,358,243 Esterowitz patent. Accordingly, the applicant respectfully contends that his claims 13 and 23 are not obvious in view of the patents cited by the Examiner.

In addition, the applicant respectfully disagrees with the Examiner having to pick three separate patents to attempt to come up with the applicant's invention. Certainly one can pick and choose references (among a great many references in this technical field) each of which shows a part of the method or apparatus of the present invention. That exercise of picking and choosing between references would not, however, serve to predict the beneficial efficiencies obtained by means of the unique combination of steps and elements recited in the claims. "It is insufficient that the prior art disclosed the complements of the patented device, either separately are used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor." *Northern Telecom, Inc v. Datapoint Corp.*, 908 F.2D 931, 15 USPQ2d 1321 (Fed, Cir, 1990) *cert. denied*, 498 U.S. 920 (1990) "...in addressing the question of obviousness a judge must not pick and choose isolated elements from the prior art and combine them to yield the invention in question...." *Dennison Mfg. Co. v. Panduit Corp.* 475 U.S. 809, 229 USPQ 478 (1986). The applicant respectfully contends that there is no teaching, suggestion, or incentive in the three patents cited by the Examiner to combine them and make the combination made by the inventor.

It is believed that the application is now in condition for allowance. If the Examiner believes that any matters are still at issue he is requested to contact applicant's undersigned attorney at 603-432-8788.

Respectfully submitted



Joseph E. Funk
Attorney for Applicant
Registration No. 25,974

BAE Systems Information and Electronic Systems Integration, Inc.
P.O. Box 868
Nashua, NH 03061 - 0868
Tel: 603-885-2643